

August 14, 1997

Mr. William F. Caton
Secretary
Federal Communications Commission
Room 222
1919 M Street, NW
Washington, D.C. 20554

RECEIVED

AUG 14 1997

**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY**

DOCKET FILE COPY ORIGINAL

Re: CC Docket No. 96-115
Telecommunications Carriers' Use of Customer Proprietary Network Information
Ex Parte Presentation by the Wireless Technology Research, LLC

Dear Secretary Caton:

Please be advised that on August 14, 1997, the Wireless Technology Research, L.L.C., (WTR), represented by Dr. George Carlo, Chairman, Rebecca Steffens, Susan O'Donnell and Linda T. Solheim, met with staff from the Commission regarding the above referenced proceeding.

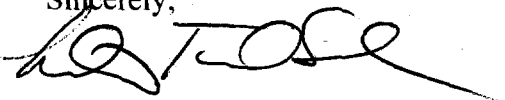
Attending this meeting from the Commission's Common Carrier Bureau, Policy Division, were: Dorothy Attwood, Senior Attorney, Tonya Rutherford, Attorney, Lisa Choi, Attorney and Raeylnn Tibayian Remy, Attorney.

During this meeting, the WTR briefed the participants on "records-linkage" epidemiological studies as essential tools in researching potential risks to public health and the need for epidemiologists to have access to customer cellular telephone usage data.

Attached are two copies of the documents provided to the Commission staff, which contain a summary of the WTR filing in this proceeding and additional information discussed at the meeting.

Please place these two copies of the letter and the attachments in the record of the above-referenced proceeding.

Sincerely,



Linda T. Solheim
General Counsel

cc: Dorothy Attwood, Senior Attorney
Tonya Rutherford, Attorney
Raeylnn Tibayian Remy, Attorney
Lisa Choi, Attorney
Enclosures

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Need For Telephone Carrier Records for Epidemiologic Studies of Cellular Telephones

**BRIEFING FOR THE
FEDERAL COMMUNICATIONS COMMISSION
COMMON CARRIER BUREAU - POLICY DIVISION**

WIRELESS TECHNOLOGY RESEARCH, LLC

August 14, 1997

BACKGROUND

- Early 1993, questions of cellular safety emerged.
- Cellular industry commissioned WTR (previously the Scientific Advisory Group on Cellular Telephone Research) to determine whether wireless technologies pose a risk to public health and to prescribe solutions to any identified problems.
- WTR program is independent, multi-discipline and multi-year research involving universities, laboratories, hospitals and research facilities world-wide.
- WTR is not involved in the manufacture or sale of cellular telephones or cellular service. The WTR members are paid solely for conducting independent scientific research and have no financial stake in the outcome of the research.
- WTR program encompasses critical pre-market studies and post market surveillance.

WTR'S EPIDEMIOLOGY RESEARCH FOUNDATION FOR NECESSARY POST MARKET SURVEILLANCE

- Epidemiology research protocol favorably peer reviewed by an independent board of reviewers coordinated by the Harvard University School of Public Health Center for Risk Analysis.
- Study to determine whether users of hand-held portable cellular telephones with antennas operating near the head have a higher rate of death from brain cancer than users without antennas.
- Cellular carriers furnish certain customer usage data and the epidemiologists compare data with publicly-available death registries.
- Customer usage data is limited to duration and frequency. No telephone numbers or data on who was called, how often calls were made or number of calls received.
- All users' records are subject to strict security and confidentiality measures. Study uses existing data - no contact with customer.
- Results are reported in aggregate form that does not permit identification of individual users.
- Dean of University of California (Berkeley) School of Public Health, wrote that this study seeks to address a "crucial gap" in the world's knowledge of potential health effects of wireless technologies.

SECTION 222 - TELECOMMUNICATIONS ACT OF 1996

- WTR filed Reply Comments in CC Docket No. 96 -115, seeking clarification that neither Section 222, nor any regulation that the Commission may issue to implement that Section, prohibits carriers from using, disclosing or permitting access to Confidential Proprietary Network Information (CPNI) for the purpose of scientific research associated with the provision of telecommunications services.
- WTR's Reply Comments stated:
 - Provision of customer billing data to scientific researchers is not subject to the limitations imposed by Section 222.
 - Carriers can disclose CPNI to researchers because health effects research is "necessary to, or used in" the provision of the telecommunications services in issue.
 - Section 222 applies only to commercial uses of CPNI and not to non-commercial uses, including scientific research.
 - Congress was concerned solely with commercial uses of CPNI.
 - Non- commercial uses not addressed by any other commenters in the proceeding.
 - No commenters suggested that Section 222 limitations should apply to scientific research.

CURRENT STATUS OF WTR EPIDEMIOLOGY RESEARCH

- Program unable to move forward - no analysis of post -Telecommunications Act of 1996 data possible.
- Records-linkage study involves large populations. Prior consent is prohibitively time-consuming and expensive or impossible from deceased in mortality studies.
- Studies are routinely used in epidemiology and are essential tools for research involving large populations.
- Need Commission clarification of access to CPNI for the purpose of scientific research associated with the provision of telecommunications services.
- Attached WTR Reply Comments, June 26, 1996.

WIRELESS TECHNOLOGY RESEARCH, L.L.C.

June 26, 1996

Mr. William F. Caton
Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20554

RECEIVED
JUN 26 1996
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Re: Telecommunications Carriers' Use of Customer Proprietary
Network Information and Other Customer Information
CC Docket No. 96-115

Dear Secretary Caton:

Enclosed are an original and eleven copies of the Reply Comments of the Wireless Technology Research, L.L.C. in the rulemaking referenced above.

We are also sending a hard copy to the International Transcription Service and a hard copy and an electronic copy on diskette to Janice Myles, Federal Communications Commission, Common Carrier Bureau, 1919 M Street, N.W., Room 544, Washington, D.C. 20554.

Sincerely,



Linda T. Solheim
General Counsel

cc: Janice Myles
International Transcription Service

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

RECEIVED

JUN 26 1996

**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY**

In the Matter of:

Telecommunications Carriers' Use
of Customer Proprietary Network
Information and Other Customer
Information

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CC Docket No. 96-115

To the Commission:

**REPLY COMMENTS OF THE
WIRELESS TECHNOLOGY RESEARCH, L.L.C.**

The Wireless Technology Research, L.L.C. ("WTR"), previously known as the Scientific Advisory Group on Cellular Telephone Research, submits these comments to secure clarification that neither Section 222 of the Telecommunications Act of 1996, nor any regulation that the Commission may issue to implement that Section, prohibits telecommunications carriers from using, disclosing or permitting access to Confidential Proprietary Network Information ("CPNI") for the purpose of scientific research associated with the provision of telecommunications services.

Summary

The WTR submits that Section 222 of the Act authorizes telecommunications carriers to give the WTR's researchers access to customer billing data because bona fide scientific research into the potential health effects of wireless technologies is "necessary to, or used in" the provision of the telecommunications services in question. The WTR also submits that the limitations in Section 222 apply only to commercial uses of CPNI and not to non-commercial uses, including scientific research.

Background

The WTR is leading an independent, multi-year research program involving several of the most prestigious universities, laboratories, hospitals and other scientific research facilities around the world. This open scientific program seeks to determine whether wireless technologies such as portable cellular telephones pose a risk to public health and to prescribe solutions to any problems that may be identified. The independence and scientific rigor of the WTR's program is ensured by the expertise and integrity of the scientists involved; by multiple levels of scientific peer review, including external review by a distinguished board of experts coordinated independently by the Harvard University Center For Risk Analysis; by the WTR's ongoing consultation with the key agencies of the federal government, including the Food and Drug Administration and the Federal Communications Commission; by the WTR's use of the most exacting scientific processes and procedures; and by an arms-length, deposit-only escrow funding mechanism supported by the wireless technology industry and administered by the Riggs National Bank of Washington, D.C.

As discussed in the WTR's *Report on Phase One: Laying the Foundation* 17-19 (July 1995) (Attachment A hereto), epidemiological research is one of the cornerstones of the WTR's research program.¹ The WTR developed the blueprint for this multi-faceted research program through a

¹ "Epidemiology is defined as the 'study of the determinants of the frequency of disease' in human populations' (Upton, 1990). Epidemiologists evaluate associations between disease and exposures, searching for cause-and-effect relationships. In general, epidemiological investigations compare either the occurrence of illness in exposed and unexposed groups (e.g., cohort studies), or the history of exposure in diseased and non-diseased groups (e.g., case-control studies) (Monson, 1990). The primary advantage of epidemiology studies is their direct relevance to humans and their ability to directly assess human health risk." Scientific Advisory Group on Cellular Telephone Research, *Potential Public Health Risks From Wireless Technology: Research Agenda for the Development of Data for Science-Based Decisionmaking* (August 1994) (Excerpt appended as Attachment B).

massive effort involving more than 150 of the world's most knowledgeable scientists over a period of eighteen months. Before implementing the program, the WTR also received external peer review from Harvard's eminent Peer Review Board.

In conducting their research, the WTR's epidemiologists use data contained in the billing records of users of cellular telephones to determine whether statistically significant associations exist between cellular telephone usage and adverse health effects. Telecommunications carriers furnish the billing records to the WTR's epidemiologists in accordance with strict security measures to ensure confidentiality. The epidemiologists must have access to customer-specific billing records in order to compare data concerning a customer's frequency and duration of wireless calls with mortality data for that customer, if any exists, in other data bases. The scientific results are disclosed only in aggregate form, which does not permit identification of individual customers. An example of such a report is appended as Attachment C. The WTR and its epidemiologists do not use the customer billing data for any commercial purpose, and the epidemiological research process does not involve any review or analysis of the substantive content of communications covered by the billing records, the identities of the third parties involved in these communications, or any commercial or financial aspects of such information.

Patricia Buffler, Dean of the School of Public Health of the University of California (Berkeley), in the forward to the report appended as Attachment C, has recently written that the WTR's large, record-based epidemiologic study involving millions of users of wireless instruments is essential to fill a "crucial gap" in the world's knowledge about the potential health effects of wireless technologies. The telecommunications carriers participating in the WTR's scientific research program are doing so to ensure that their services are safe or, should risks to public health be

identified, to ensure that measures to mitigate such risks are implemented promptly. The public interest dictates that this crucial scientific research be allowed to go forward unimpeded.

The Telecommunications Act Does Not Preclude Telecommunications Carriers From Using, Disclosing or Permitting Access to Customer Billing Data For the Purpose of Non-Commercial Scientific Research Associated With the Provision of Telecommunications Services

The language and legislative history of Telecommunications Act, the Commission's Notice of Proposed Rulemaking ("NPRM") and the opening round of comments make clear that the provision of customer billing data to scientific researchers is not subject to the limitations imposed by Section 222. This is so for two independent reasons. First, the Act authorizes telecommunications carriers to disclose customer billing data to bona fide scientific researchers because research involving the potential health effects of wireless technologies is "necessary to, or used in" the provision of the telecommunications services in issue. Second, the Act applies only to commercial uses of CPNI and not to non-commercial uses, including scientific research.

Section 222(f)(1) of the Telecommunications Act defines the term "Customer Proprietary Network Information" as:

(A) information that relates to the quantity, technical configuration, type, destination, and amount of use of a telecommunications service subscribed to by any customer of a telecommunications carrier, and that is made available to the carrier by the customer solely by virtue of the carrier-customer relationship; and

(B) information contained in the bills pertaining to telephone exchange service or telephone toll service received by a customer of a carrier; except that such term does not include subscriber list information as defined in Section 222 of the Communications Act.

Section 222(c)(1), in turn, authorizes telecommunications carriers to use, disclose or permit access to CPNI only for the following purposes:

Except as required by law or with the approval of the customer, a telecommunications carrier that receives or obtains customer proprietary network information by virtue of its provision of a telecommunications service shall only use, disclose, or permit access to individually identifiable customer proprietary network information in its provision of (A) the telecommunications service from which such information is derived, *or (B) services necessary to, or used in, the provision of such telecommunications service*, including the publishing of directories.

Id (emphasis added).

The legislative history supports a broad reading of the terms "necessary to, or used in." Under the privacy provision of the House telecommunications bill, carriers would have been prohibited from disclosing CPNI to "any person except to the extent necessary to permit *such person* to provide services or products that are used in *and* necessary to the provision of telecommunications services. H.R. 1555, 104th Cong., 1st Sess. § 104 (1995), (adding Section 222(b)(1)(D) (emphasis added). The use of the terms "such person" and the conjunctive "and" in this provision would have had the effect of permitting disclosure only to third parties that actually provided telecommunications services and products. The Conference Committee rejected this approach, electing instead to adopt language that permits carriers to disclose CPNI to third parties who are not directly engaged in the provision of telecommunications services and products but who render services that are necessary to the carrier's provision of such telecommunications services. H.R. Rep. No. 458, 104th Cong., 2d Sess. 205 (1996). This would clearly include entities such as the WTR that conduct scientific research on matters arising out of the provision of the telecommunications services that generated the customer billing data. Establishing a credible and scientifically-rigorous database as rapidly as good science allows is essential to informing sound government decisionmaking, reassuring customers if wireless technologies are found not to pose risks to public health, and implementing risk management options without delay if any dangers are discovered.

As the Commission notes in paragraphs 20-24 of the NPRM, the legislative history of the Act also supports the view that the constraints imposed by Section 222 apply only to the use of CPNI in *marketing* telecommunications services other than the specific service that generated the CPNI. Thus, the Commission states in paragraph 24 and footnote 60 of the NPRM that the legislative history indicates that the references to "customer privacy" in the Act should be read in a commercial context:

Our interpretation [of "telecommunications services"] also enhances customer privacy by giving customers greater control over CPNI use; *CPNI derived from one telecommunications service cannot be used to provide other services or products without prior customer knowledge*. We believe that our interpretation of the term "telecommunications service" also addresses *competitive considerations*. Our reading of the 1996 Act prohibits carriers that are established providers of certain telecommunications services from gaining an advantage by *using CPNI to facilitate their entry into new telecommunications services* without obtaining prior customer authorization.

Id. (footnotes omitted) (emphasis added).

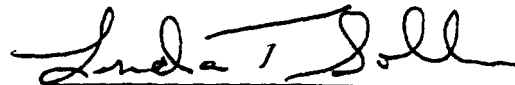
Nothing in the opening round of comments filed in this proceeding is inconsistent with the WTR's interpretation of the Act. The comments uniformly reflect the understanding that Congress was concerned solely with commercial uses of CPNI when it enacted Section 222. Not one commenter even addressed non-commercial uses of CPNI, much less suggested that the limitations in Section 222 should be applied to scientific research essential to the provision of the telecommunications services in issue.

Conclusion

The WTR appreciates this opportunity to comment and urges the Commission to make clear that the Act authorizes telecommunications carriers to use, disclose or permit access to customer billing data for the purpose of non-commercial scientific research associated with the provision of the telecommunications services.

Should the Commission have questions or desire additional information, the WTR would gladly furnish it.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Linda T. Solheim". The signature is fluid and cursive, with a horizontal line drawn underneath the name.

Linda T. Solheim
General Counsel
Wireless Technology Research, L.L.C.
1711 N Street, N.W.
Washington, D.C. 20036
(202) 833-2800
(202) 833-2801 (FAX)

June 26, 1996

ATTACHMENT A

LAYING

Wireless Technology Research, L.L.C.

July 1995

[illegible][illegible][illegible][illegible]

Table 1. *Continued*

ABOUT THE ORGANIZATION

In February 1993, the cellular telecommunications industry made a public commitment to support independent and rigorous scientific research into the safety of portable cellular telephones and other wireless communication technology. The Scientific Advisory Group (SAG) on Cellular Telephone Research was subsequently established with criteria and procedures guaranteeing absolute non-interference by industry to assess the potential public health impact of wireless technology and to recommend corrective interventions where necessary.

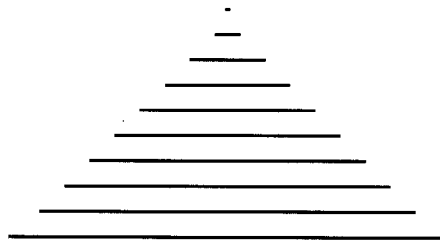
During Phase One, the SAG successfully completed its research agenda, laying a solid foundation for the multidimensional scientific program demanded by its mission. The development of this comprehensive research program included the input of more than 150 scientists, academics, and federal regulators. A Peer Review Board coordinated through the Harvard University School Of Public Health, Center for Risk Analysis was established to assist the program in achieving scientific soundness and impartiality of the research effort.

At the start of 1995, as the scope of the research program evolved to include the evaluation of all wireless communication technology, the organization made the decision to change its name to the Scientific Advisory Group on Wireless Technology. In March 1995, the SAG adopted a recommendation by the General Accounting Office (GAO), the investigatory arm of the U.S. Congress, and created a legally constituted entity charged with conducting the daily activities necessary to ensure the proper structural and financial support for the research program. The original structure of the SAG focused on developing the scientific underpinnings of the research program and did not include the administrative structure to manage the contracts and finances of a program unique in its size and scope. This new entity is the Wireless Technology Research, L.L.C. (WTR). It was established for the sole purpose of providing for the management and administration of the scientific research program. The WTR will furnish enhanced financial management capability, in addition to the scientific program management of the SAG. The WTR will provide full and public disclosure of the financial structure and will ensure the integrity of the program and the resulting research.

Continuing the program's adherence to strict scientific principles, openness, and collaboration, 1995 has begun the initiation of Phase Two: Extramural Research. During Phase Two, the WTR is expanding its surveillance and research program to include the implementation of high-quality, definitive studies directly relevant to wireless instruments and the wireless technology delivery infrastructure.

LAYING
THE
FOUNDATION

FOR WIRELESS TECHNOLOGY
PUBLIC HEALTH RESEARCH



An Overview of Phase One

Research Program of the
Wireless Technology Research, L.L.C.

July 1995

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SETTING PRECEDENTS IN SCIENTIFIC RESEARCH

During the Scientific Advisory Group's (SAG) first two years, we made a concentrated effort to achieve a program with a strong scientific basis, building Good Laboratory Practices, Good Clinical Practices, and Good Epidemiology Practices into our research methodology.

During Phase One of the program — Laying the Foundation — we successfully developed the SAG's research agenda, giving form and structure to the research we hope to complete by 1998. We expanded our research mandate from addressing cellular telephone technology health risks to potential risks of all wireless technology, including the technology's infrastructure. As word of our project reached the international scientific community, we forged growing partnerships with other entities engaged in similar scientific pursuit.

Today, 25 months into what was projected as a 60-month program, we have achieved significant understanding of the key scientific issues. We have moved forward with Phase Two: Extramural Research, where specific hypotheses will be tested in independent universities and laboratories around the world.

In January 1995, the Scientific Advisory Group on Cellular Telephone Research was renamed as the Scientific Advisory Group on Wireless Technology to reflect its expanded mandate. In April 1995, the SAG created a legally constituted entity, the Wireless Technology Research, L.L.C., (WTR) to provide for the enhanced financial management and administration of the scientific research program. The SAG's creation of the WTR followed a recommendation by the U.S. General Accounting Office (GAO) to add further assurance of program independence and scientific rigor.

In June 1995, the WTR issued an omnibus request for proposals covering the remaining work to be accomplished through the program. This RFP includes an extensive background document detailing the results of pilot studies and other preparatory work funded by the SAG and done through our various working groups and scientific panels. This work will be submitted for publication in the scientific literature.

It is a pleasure to work with a program as unique as the WTR, one covering myriad issues never before addressed in this manner. I wish to thank the scientists, academics, federal regulators, and industry members world-wide who have made this ground-breaking project a reality. I would also like to make special note of Dr. Donald McRee, formerly of NIH, joining the WTR as the Director of Extramural Research. Dr. McRee is uniquely qualified for this job and has already made a significant contribution. I hope the research methodology that has evolved from the program will aid future researchers in the thorough, rigorous pursuit of informed judgments.



George L. Carlo
Chairman

"In sum, we commend the Scientific Advisory Group on their effort to respond to and incorporate the comments of the Peer Review Board into the revised Research Agenda document on wireless technology. This is a well-written, fluid, and comprehensive document."

*Dr. John D. Graham
Director*

*Dr. Susan W. Putnam
Project Manager*

*Harvard University
School of Public Health,
Center for Risk Analysis*

August 1994

PROGRAM OVERVIEW

HISTORY/DEVELOPMENT OF CRITERIA

The Scientific Advisory Group (SAG) on Cellular Telephone Research was established in May 1993. Earlier that year, questions about the safety of cellular telephones had emerged when the national media reported on a lawsuit in Florida in which the plaintiff had alleged that his wife had died of a brain tumor caused by cellular phone use. In response to these questions, the cellular telephone industry, including manufacturers of telephones, manufacturers of the telecommunications infrastructure, and providers of cellular telephone service, pledged its support for a major research initiative to facilitate science-based decisionmaking regarding the potential health effects of current and future wireless technology.

Subsequently, the cellular telephone industry commissioned the SAG to establish and manage an independent, comprehensive,

and scientifically rigorous research program to develop a database upon which public health decisions could be made. The industry also asked the SAG for advice and recommendations on whether wireless communication instruments pose public health risks and, if so, on measures that the industry could adopt to mitigate such risks.

During its first two years, the SAG was involved in the first phase of its research effort: internally developing an agenda for research, consolidating the scientific community's collective thinking, and reviewing existing and emerging scientific information. In 1995, the SAG moved into a second, extramural phase of research, where specific hypotheses addressing potential wireless technology health risks will be tested in independent universities and laboratories around the world. The SAG created a new legally constituted entity, the Wireless Technology Research, L.L.C. (WTR), to provide a structural change, recommended by the U.S. Government Accounting Office, to give it exclusive contracting authority free of outside influence.

The independent scientific program developed by the SAG in Phase One was framed in accordance with the following criteria:

- The program must be independent of industry influence so that the results will be acceptable to public health

decisionmakers in government, the scientific community, and industry

- The program must adhere to the highest of scientific standards to guarantee scientific rigor
- The program must encompass a rapid trigger for public health intervention, if any adverse impact of wireless technology is discovered
- The program must encompass ongoing coordination with government decisionmaking bodies, the scientific community, and industry to ensure that the SAG research effort is responsible to the evolving needs of these groups
- The program must involve significant funding to gain answers to critical public health questions in a defined time frame

Each of these five criteria developed by the SAG in Phase One are represented in the WTR program. The open, science-based approach employing independent laboratories and scientists is supported through an unrestricted deposit-only escrow fund, devoid of industry control, with an industry commitment of \$25 million for funding. Extensive peer review and a requirement that research findings from the program be submitted for publication in the open scientific litera-



ture underscore the program's commitment to scientific rigor. An ongoing surveillance component aimed at assessing all new scientific information in the context of public health risk provides assurance that any problems identified will be mitigated as early as possible. An active scientific outreach program, including a published scientific newsletter, assures that the scientific community, government, and industry are well informed regarding the WTR program's progress.

CONTENT AREAS

From the outset, the SAG program operationally followed a public health paradigm. All activities of the SAG were directed to answer one of the following four questions:

- Is there a public health problem posed by wireless communication technology?
- If yes, what are the characteristics of that public health problem?
- What are the appropriate corrective interventions to mitigate any identified public health risk from wireless technology?
- What is the appropriate implementation strategy for those interventions?

Based on this paradigm, the SAG defined four program content areas.

Ongoing Surveillance: The daily review of emerging scientific information in the context of the public health paradigm.

Risk Evaluation Research: The development of fundamental scientific information regarding wireless technology's impact on public health. Research involves the areas of experimental toxicology, dosimetry, epidemiology, and clinical studies.

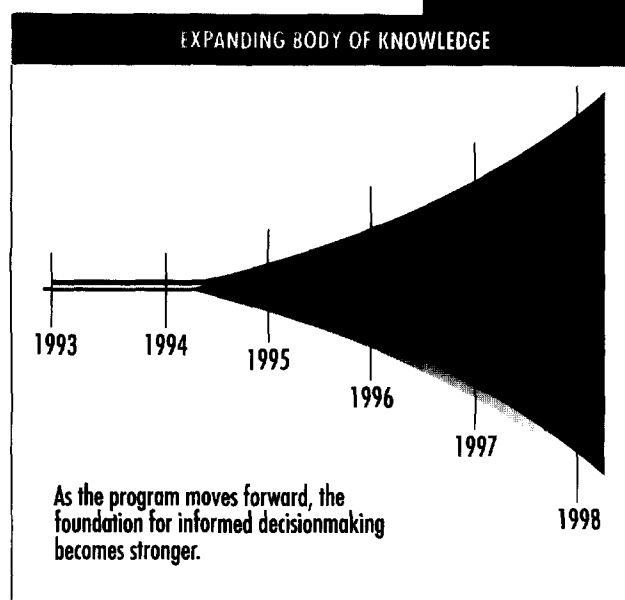
Risk Management Research: Research and development of risk-mitigation options and strategies for implementation, with a focus on certification of wireless instruments, design modification, labeling, infrastructure, usage restrictions, and public education.

Scientific Outreach: Ongoing interaction with interested parties in the scientific community, government, industry, and the public in an effort to impart and receive information critical to the completion of the SAG mission.

PROGRAM STRUCTURE

The original research program developed into three scientific structural components: the Scientific Advisory Group, the Peer Review Board, and Discipline- and Task-Specific Scientific Panels.

The **Scientific Advisory Group** (now the WTR) is responsible for managing and implementing



the overall surveillance and research effort, and is chaired by Dr. George L. Carlo, with oversight responsibility for epidemiology and human studies, and includes Dr. Ian C. Munro, with oversight responsibility for experimental toxicology, and Dr. Arthur W. Guy, with oversight responsibility for bioelectromagnetics and dosimetry.

Coordinated through the Harvard University School of Public Health, Center for Risk Analysis, the **Peer Review Board** is responsible for assuring that high-quality science is performed under the program. The Peer Review Board is comprised of esteemed scientists, chosen for their experience in public health, their ability to be independent thinkers, and their exemplary contributions to science.

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graph TD
    SSF[Scientific Support Fund] --> SAG[SAG]
    SAG --> OS[Ongoing Surveillance]
    SAG --> SO[Scientific Outreach]
    SAG --> PRB[Peer Review Board]
    PRB --> IR[Independent Research]
  
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EXPENDITURES

Critical building blocks were developed in the Ongoing Surveillance Program, the Risk Evaluation Research Program, and in the Risk Management Research Program.

In the next year, the focus of the WTR program will shift from laying the foundation for rigorous research to building the solid scientific database necessary for informed public health decisionmaking. Experiments and studies specifically

ACCOMPLISHMENTS

Ongoing Surveillance:

- Published an extensive review of relevant scientific data
- Established a scientific literature monitoring program
- Initiated an international survey of ongoing scientific research pertaining to wireless technology
- Participated in scientific symposia where new data were released

Research
\$1,800,175

Outreach
\$414,942

Management and Support
\$102,935

Surveillance
\$269,171

Other
\$109,699

Industry
\$42,125

Government
\$144,942

Scientific Community
\$73,609

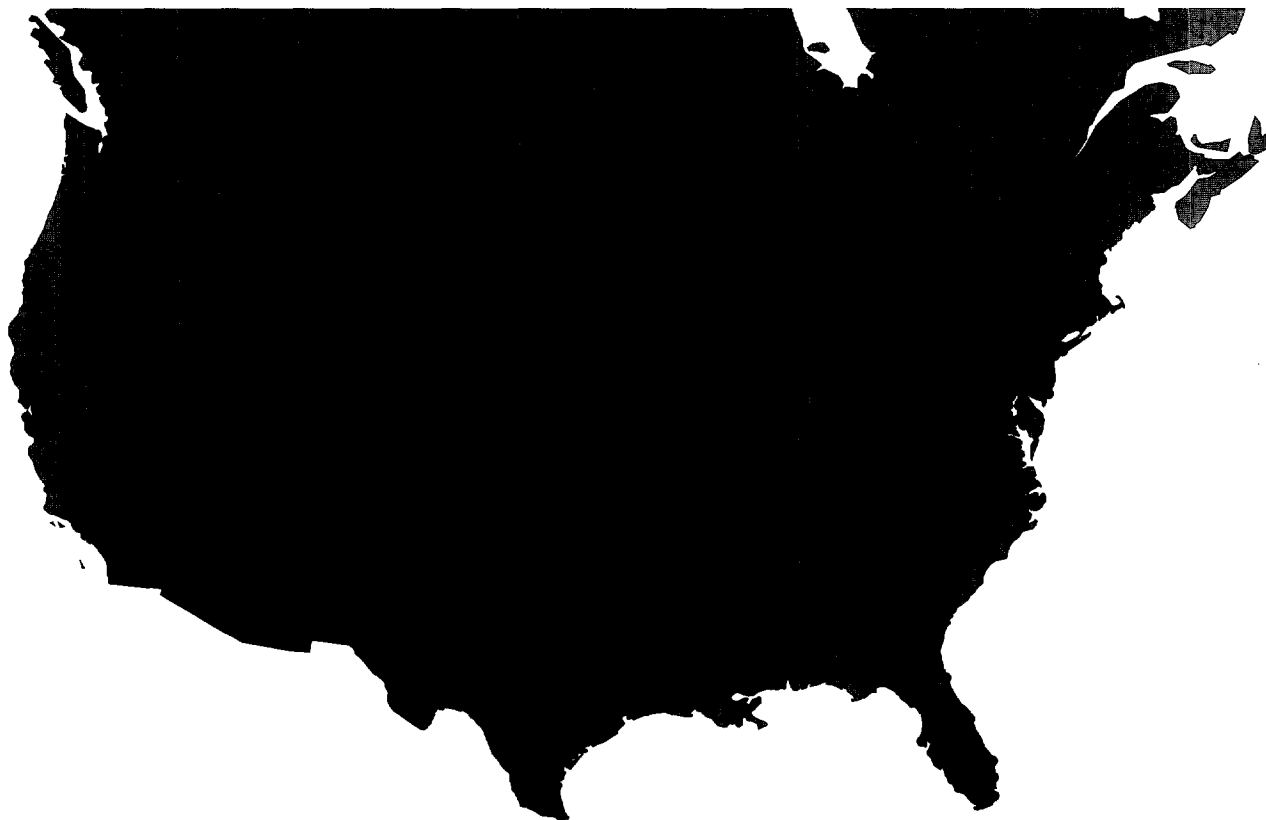
Risk Management Research
\$160,453

EMI
\$95,782

Risk Evaluation Research
\$637,139

TOTAL EXPENDITURES: \$2,938,974

LOCATION OF INDEPENDENT RESEARCHERS, REVIEWERS, LABORATORIES, AND INSTITUTIONS IN THE USA & CANADA



- Empaneled numerous independent expert working panels to assist in the evaluation of emerging scientific information
- Established an epidemiology cohort for surveillance including more than two million cellular telephone users, and laid the foundation for the addition of four million more
- Became an active participant in the European Commission's COST Telecommunications Action 244 on the Biomedical Effects of Electromagnetic Fields

Risk Evaluation Research:

- Published *Potential Public Health Risks from Wireless Technology: Research Agenda for the Development of Data for Science-Based Decision-making*, a peer-reviewed treatise designed to serve as a blueprint for the future of health science research on wireless technology
- Developed and implemented procedures for processing research contracts and grant proposals
- Laid the foundation for the development of standardized exposure systems and metrics

for use in SAG-sponsored experiments and epidemiology studies

- Empaneled expert working groups on promotion studies, epidemiology exposure assessment, toxicology exposure systems, DNA studies, and case-control studies
- Completed two epidemiology pilot studies addressing methodological issues to be encountered in subsequent epidemiology work

During Phase One, the SAG program evolved into a unique, international scientific research effort. In 1995, the WTR research program has become an unparalleled undertaking in the field of science — literally the largest independent research project of its kind in the world.

LOCATION OF INDEPENDENT RESEARCHERS, REVIEWERS, LABORATORIES, AND INSTITUTIONS IN THE INTERNATIONAL COMMUNITY



- Coordinated the collaborative development of a clinical protocol addressing potential interference between portable cellular telephones and cardiac pacemakers, with participation from university scientists, physicians, government, and industry
- Began to develop a quality assurance monitoring program for ongoing dosimetry, epidemiology, toxicology, and clinical studies, encompassing Good Laboratory Practices, Good Clinical Practices, and Good Epidemiology Practices

Risk Management Research

- Issued first Risk Management report entitled *Potential Public Health Risks from Wireless Technology: The Development of Data for Science-Based Risk Management Decisionmaking* with input from the scientific community, government, and industry
- Made recommendations to the industry regarding product certification, standardized labeling, and public education
- Convened a national symposium on wireless transmission base station facilities

SUMMATION

Phase One was a pivotal time for the SAG program. The viability and credibility of the SAG effort was established and solidified. The research foundation that has been laid will serve to facilitate informed interpretation of the hypothesis-testing work to be completed through the remainder of the program. The Wireless Technology Research, L.L.C., is now uniquely positioned to become the definitive resource for rigorous scientific information regarding the potential public health impact of wireless technology.